

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/011650

A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl⁷ C12N15/12, C12Q1/68, C07K14/82, A61K31/711, C07K16/32, C12N5/10, G01N33/15, G01N33/50

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl⁷ C12N15/12, C12Q1/68, C07K14/82, A61K31/711, C07K16/32, C12N5/10, G01N33/15, G01N33/50

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

JSTPlus, WPI (DIALOG), BIOSIS (DIALOG), PUBMED, EMBL/DDBJ/Genbank/SwissProt/PIR/Geneseq

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/046415 A2 (INCYTE GENOMICS, INC.), 13 June, 2002 (13.06.02), & AU 2002727902 A Claims; page 66, lines 27 to 29; sequence No. 30	1-3, 10, 11, 13-16, 24-27
X	US 2003/0003538 A1 (DIETRICH R.S. et al.), 02 January, 2003 (02.01.03), Claims; sequence Nos. 15, 16 (Family: none)	1-3, 10, 11, 13-16, 24-27
X	WO 03/029424 A2 (CURAGEN CORP.), 10 April, 2003 (10.04.03), & AU 2002357648 A1 & AU 2002356534 A1 Claims; pages 83 to 84; sequence Nos. 161, 162	1-3, 10, 11, 13-16, 24-27

☒ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
19 October, 2004 (19.10.04)Date of mailing of the international search report
02 November, 2004 (02.11.04)Name and mailing address of the ISA/
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
E, X	WO 04/040000 A2 (PRIMAL INC.), 13 May, 2004 (13.05.04), Claims; sequence No. 788 (Family: none)	1-3, 10, 11, 13-16, 24-27

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 28-37

because they relate to subject matter not required to be searched by this Authority, namely:

The inventions as set forth in claims 28 to 37 pertain to methods for treatment of the human body by therapy and diagnostic methods and thus relate to a subject matter which this International Searching Authority is not required, under the provisions of Article 17(2)(a)(i) (continued to extra sheet.)

2. ☐ Claims Nos.:

because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:

because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:
(See extra sheet.)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.

2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

The parts relating to SEQ ID NO:1 in claims 1 to 3, 10, 11, 13 to 16 and 24 to 27.

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
☐ No protest accompanied the payment of additional search fees.

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Continuation of Box No.II-1 of continuation of first sheet (2)

of the PCT and Rule 39.1(iv) of the Regulations under the PCT, to search.

Continuation of Box No.III of continuation of first sheet (2)

The polynucleotides having the base sequences represented by SEQ ID NOS:1 to 65 as described in claim 1 and polypeptide expressed thereby have no common chemical structure. Namely, these inventions relating different SEQ ID NOS are common to each other exclusively in being specifically expressed exclusively in lung cancer, stomach cancer, colon cancer or liver cancer tissues.

However, document 1 reports genes specifically expressed in colon cancer and lung cancer (Table 2, columns Co and Lu).

Document 2 reports a gene specifically expressed in stomach cancer (Table 1).

Document 3 reports a gene specifically expressed in liver cancer (Table 2).

Therefore, being specifically expressed exclusively in lung cancer, stomach cancer, colon cancer or liver cancer tissues cannot be considered as a special technical matter in the meaning within PCT Rule 13.2.

Such being the case, the inventions relating respectively to 65 different SEQ ID NOS, among the inventions as set forth in claims 1 to 27, cannot be considered as a group of inventions so linked as to form a single general inventive concept. Namely, these inventions are recognized as 65 groups of inventions respectively relating to 65 polynucleotides different from each other and polypeptides expressed thereby.

Document 1: SCHEURLE D. et al., Cancer gene discovery using digital differential display, Cancer Res. (2000), Vol.60, No.15, p.4037-4043

Document 2: Matthias P.A.E. et al., Expression of Metallothionein II in Intestinal Metaplasia, Dysplasia, and Gastric Cancer, Cancer Research (2000), Vol.60, p.1995-2001

Document 3: Xu X.R. et al., Insight into hepatocellular carcinogenesis at transcriptome level by comparing gene expression profiles of hepatocellular carcinoma with those of corresponding noncancerous liver, Proc. Natl. Acad. Sci. USA. (2001), Vol.98, No.26, p.4037-4043